U.S. Patent Application No. 10/698,897
Response to Office Action mailed on December 29, 2005
Amendment dated March 29, 2006

REMARKS

Claims 1, 10, 11, 12, 16, and 17 have been amended to better define that which

the Applicants consider to be the invention.   Claims 1-18 are pending.

Rejections Under Section 35 U.S.C. §112

The Office rejected claims 1, 10-12, and 17 under 35 U.S.C. 112, second

paragraph, as being indefinite. Applicants respectfully submit that claims 1, 10-12, and

17 have been amended to provide proper antecedent basis.   Therefore, Applicants

respectfully submit that claims 1, 10-12, and 17 are definite and consequently request that

the Office withdraw the section 112 rejection.

Rejections Under Section 35 U.S.C. §103

Claims 1-4, 6, 8-9, 13-15, 16, and 18 were rejected under 35 U.S.C. section 103

as being unpatentable over Saulsbury et al. (U.S. Patent No. 5,900,011)("Saulsbury"), in

view of Lamberts (U.S. Patent No. 6,418,510)("Lamberts").   Applicants respectfully

traverse these rejections as well as the suggestions used by the Office to support these

rejections. As discussed below, Applicants respectfully submit that the cited prior art

references do not disclose or suggest all of the features of the claimed inventions.

.Therefore, Applicants respectfully submit that the Office has failed to make a prima facie

showing of obviousness as is required in a section 103 rejection.

Applicants respectfully submit that claim 1 includes the features of a partitioned

phantom cache and the sizes of the real cache partitions being adjusted based on the

ARC920030068US1   6

U.S. Patent Application No. 10/698,897
Response to Office Action mailed on December 29, 2005
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replacement cost of the data. Applicants respectfully submit that, at the very least, Saulsbury and/or Lamberts do not disclose or suggest these features. The Office attempts to suggest that Saulsbury discloses a victim cache that is the same as the claimed phantom cache. Applicants respectfully traverse this suggestion. Applicants respectfully submit that the victim cache of Saulsbury contains data while the phantom cache does not. In addition, Applicants respectfully submit that the claimed invention includes the feature of partitioning the cache based on replace cost of the data. Applicants respectfully submit that Saulsbury does not disclose or suggest this feature because Saulsbury does not discuss partitioning based on cost.

With regard to Lamberts, Applicants respectfully submit that Lamberts teaches partitioning into read and write caches and calculates a cost of each block. Therefore, Applicants respectfully submit that Lamberts partitions based on the operation (i.e., read or a write) and not based on cost. Consequently, Applicants respectfully submit that Lamberts does not disclose or suggest that the partitioning of the cache based on replacement costs.

Applicants respectfully submit that claim 16 includes the features of determining a future size for each partition based on the history and the cost associated with not keeping the data in the cache and adjusting the real size of the partitions based on the determined future size of each partition. As discussed above, Saulsbury does not even discuss partitioning and Lamberts does not disclose or suggest that the partitioning of the cache be based on costs. Therefore, Applicants respectfully submit that the cited

ARC920030068US1 7

U.S. Patent Application No. 10/698,897
Response to Office Action mailed on December 29, 2005
Amendment dated March 29, 2006

references individually or in combination do not disclose or suggest the above-referenced features of claim 16.

Applicants further traverse the Office's suggestion that there is a motivation to combine Lamberts and Saulsbury. Applicants respectfully submit that although the Lamberts and Saulsbury discuss usage of caches, they do not include the motivation to combine the teachings of the references to generate the claimed invention because, as discussed above, Lamberts and Saulsbury do not, individually, or in combination, disclose or suggest all of the features of the claimed invention.

Consequently, because the cited prior art references do not disclose or suggest all of features of claims 1 and 16, Applicants respectfully submits that the Office has failed to provide a prima facie case of obviousness as is required under a section 103 rejection. Therefore, Applicants respectfully request that the Office withdraw the section 103 rejections.

Claims 5, 7, 10-12, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Saulsbury and Lamberts as applied to claims 1-4, 6, 8-9, 13-15, 16 and 18 and further in view of Smith (U.S. Patent No. 5,394,531)("Smith"). Applicants respectfully traverse this rejection as well as the suggestions used by the Office to support these rejections. As discussed above, Saulsbury and Lamberts do not disclose or suggest the features of independent claims 1 and 16.

With respect to the Smith reference, Applicants respectfully submit that Smith teaches partitions, each with a target miss ratio. Applicants respectfully submit that the

ARC920030068US1   8

U.S. Patent Application No. 10/698,897
Response to Office Action mailed on December 29, 2005
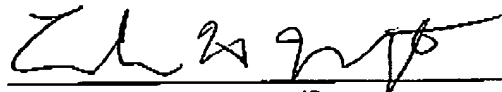Amendment dated March 29, 2006

target miss ratio is the performance target of the partition, not the criteria for partitioning the cache. Consequently, Applicants respectfully submits that Smith does not disclose or suggest using a criteria for the partitioning of the cache and therefore does not disclose or suggest partitioning based on costs of data.

Consequently, Applicants respectfully submit that the cited prior art references individually, or in combination, do not disclose or suggest all of the features of the pending claims. Applicants further respectfully submit that all of the dependent claims are allowable for at least the same reasons as the independent claims.

Applicants respectfully submit that all of the pending claims are allowable, and accordingly, a notice of allowance is respectfully requested. If any fees are due in connection with filing this paper, the Commissioner is authorized to charge Deposit Account No. 09-0441.

Respectfully submitted,

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ARC920030068US1   9